In the Claims

1-23 (canceled).

24 (currently amended). A method for treating or preventing autoimmune, inflammatory, or infectious diseases comprising the administration of an effective amount of a monomeric ~~variants~~ variant of a homodimer-forming chemokine to an individual having an autoimmune, inflammatory, or infectious disease, wherein said variant result from at ~~least an~~ least one amino acid substitution that alters the pattern of hydrogen bonds at the dimerization interface of said chemokine.

25 (previously presented). The method according to claim 24, wherein the monomeric variant is chosen from:

a) CCL2-P8A (SEQ ID NO: 2);

b) CCL2*-P8A (SEQ ID NO: 4);

c) an active mutant of (a) or (b); or

d) a polypeptide comprising (a), (b), or (c), and an amino acid sequence belonging to a protein sequence other than said chemokine.

26 (previously presented). The method according to claim 25, wherein said monomeric variant comprises SEQ ID NO: 2.

27 (previously presented). The method according to claim 24, wherein said monomeric variant further comprises an isoleucine at position 64 of SEQ ID NO: 2.

28 (previously presented). The method according to claim 24, wherein said monomeric variant does not contain a mutation in position 9, 10, or 13 of SEQ ID NO: 2 and SEQ ID NO: 4.

29 (previously presented). The method according to claim 24, wherein said monomeric variant contains, in the corresponding sequence of SEQ ID NO: 2 and SEQ ID NO: 4:

a) a Cysteine in position 8, 14, 17, or 77; or

b) an Alanine or a Glycine in position 1.

30 (previously presented). The method according to claim 24, wherein said monomeric variant comprises a constant region of a human immunoglobulin heavy chain.

31 (previously presented). The method according to claim 25, wherein said monomeric variant comprises a constant region of a human immunoglobulin heavy chain.

32 (previously presented). The method according to claim 26, wherein said monomeric variant comprises a constant region of a human immunoglobulin heavy chain.

33 (previously presented). The method according to claim 27, wherein said monomeric variant comprises a constant region of a human immunoglobulin heavy chain.

34 (previously presented). The method according to claim 28, wherein said monomeric variant comprises a constant region of a human immunoglobulin heavy chain.

35 (previously presented). The method according to claim 29, wherein said monomeric variant comprises a constant region of a human immunoglobulin heavy chain.

36 (previously presented). The method according to claim 24, wherein said autoimmune, inflammatory, or infectious disease is selected from the group consisting of: arthritis, rheumatoid arthritis (RA), psoriatic arthritis, osteoarthritis, systemic lupus erythematosus (SLE), systemic sclerosis, scleroderma, polymyositis, glomerulonephritis, fibrosis, fibrosis, allergic or hypersensitivity diseases, dermatitis, asthma, chronic obstructive pulmonary disease (COPD),

inflammatory bowel disease (IBD), Crohn's diseases, ulcerative colitis, multiple sclerosis, cancer, septic shock, viral or HIV infections, transplantation, airways inflammation, graft-versus-host disease (GVHD) and atherosclerosis.

37 (previously presented). The method according to claim 36, wherein the disease is multiple sclerosis.

38 (previously presented). A method for producing the fusion polypeptide comprising:

a) cloning of the nucleic acid sequence encoding the mature CCL2-P8A in an expression vector fused to a nucleic acid sequence encoding the human CCL2 signal sequence at its 5' end, and the nucleic acid sequence encoding the constant region (segment 243-474) of human immunoglobulin lambda heavy chain IgG1 at its 3' end;

b) transforming a CHO or HEK293 cell line with the resulting vector;

c) selecting the clones stably expressing and secreting the recombinant fusion protein having CCL2-P8A at the N-terminus and the IgG1 sequence at the C-terminus; and

d) purifying the fusion protein from the culture medium.

39 (previously presented). A method for screening for obligate monomeric antagonist chemokine variants described herein comprising:

a) making single point mutations in CCL2 that block its ability to dimerize;

b) identifying said variants that bind to the receptor and show agonistic properties in vitro; and

c) identifying said variants from the group identified in (b) above that are further characterized as inhibiting peritoneal cell recruitment.

40-43 (canceled).

44 (new). The method according to claim 24, wherein said monomeric variant comprises SEQ ID NO: 2 and said autoimmune, inflammatory, or infectious disease is multiple sclerosis.